

Various arrangements of mechanism are suitable for imparting the required up and down movement to the platen, but the preferred arrangement is that shown in the drawings which consists of toggle-levers  $v v v' v'$  5 jointed at one end to nuts  $w w$  on a right and left handed screw shaft  $x$  fitted with hand wheels  $y y$  for turning it. The other ends of the upper levers  $v v$  are jointed at  $v^2 v^2$  to the head  $u$ , and the other ends of the lower levers  $v' v'$  at  $v^3 v^3$  to the top of the platen  $u$ .

$z$  is a "blanket" stretched under the platen  $u$ ; its ends are secured to rods or bars  $A$  the ends of which fit into forks or bearings  $B$  on 15 the top of the platen. It is, however, not essential to attach the blanket to the platen as (when the saving of time is not the main object in view) it may be laid upon the flong but it is preferable to hold it against the under face of the platen so that it will move therewith.

Attached to the platen  $u$  so as to come below it and the blanket  $z$  are horizontal guides or slideways  $C$  to receive and support the 25 sides of an open rectangular frame  $D$  in which the flong is placed, and at the inner end of these guides is a stop  $E$  against which the inner end of the frame  $D$  abuts when in position for taking the mold or matrix. The 30 guides  $C$  are vertically movable to vary the position of the flong relatively to the platen and blanket, and to yield when striking in their downward movement, the form  $q$  being preferably adjusted to normally hold the flong 35 away from the blanket and yielding during the pressure to allow the blanket to act against the flong, and are preferably carried at their ends on the lower ends of vertical arms  $F$  depending from spring pistons  $G$  in boxes  $H$  40 fixed to brackets  $H'$  on the platen  $u$ ; the guides  $C$  are adjustable in position by means of the slots  $H^2$  and tightening nuts  $H^3$  so that they may be set to receive varying widths of frames  $D$ ; this construction is clearly seen in 45 Figs. 6 and 7.

The rectangular frame  $D$  a detached view of which is shown in Fig. 5 is a rectangular frame composed of two leaves hinged together so that they can be opened for the insertion 50 of the flong or the removal of the matrix or closed upon the flong so as to hold it when laid between them.

$J$  represents the flong.

$K K$  are the hexagonal heads of screws 55 which are screwed into the block or bed  $c$ . By screwing in or unscrewing these screws by means of a spanner the heating chamber  $e$  which rests upon them can be lowered or raised as may be required in order to adjust 60 the height of the top surface of the said chamber which surface constitutes the type bed as has been already stated.

$L$  is a delivery table along which the form can be removed after the impression has been 65 taken and the flong lifted. In order to allow of this removal the stops or gages  $s$  must be lifted out. In cases where the delivery table

$L$  cannot conveniently be accommodated it can be dispensed with together with the corresponding parts of the side frames  $a a$ . The 70 form would then be removed along the feed table  $r$ .

The operation of producing and drying a matrix by means of this apparatus is as follows:—The gas in the heating chamber  $e$  hav- 75 ing been ignited and the platen  $u$  being in its raised position (as seen in the figures) a moist flong  $J$  is placed in the rectangular frame  $D$  which is then closed upon it. The frame  $D$  with the flong is then slid into the guides  $C$  80 up to the stop  $E$ , the form being under the blanket  $z$ . The hot air which escapes through the openings  $j j$  in the top of the heating chamber  $e$  now surrounds the flong and quickly drives out the superfluous moisture. 85 When the flong has been dried to the state in which the substances of which it is composed begin to consolidate (which a little experience will enable the operator to know) the platen  $u$  is lowered so as to bring the flong in its 90 heated state down upon the form  $q$  which has in the meantime been placed upon the type bed. The platen is caused to give sufficient pressure to take a good even impression from the type. When the impression has been 95 taken the platen is raised and it carries the flong or matrix  $J$  with it because the frame  $D$  containing the matrix is still held in the guides  $C$ . During the descent of the platen the guides  $C$  would come against the side margins of the 100 form and would yield somewhat because of the compression of the springs of the pistons  $G$ , but on the ascent of the platen these springs would force the guides  $C$  with the frame  $D$  and matrix clear of or out of contact with the 105 blanket  $z$ . The type form  $q$  can now be removed and the matrix is allowed to remain for a short time (a few seconds is generally sufficient) suspended or held between the platen and the type bed until finally dried by the hot air which 110 continues to rise from the chamber  $e$  through the openings  $j j$  and to circulate above and below the matrix. In a very short time the matrix becomes dry and can be removed with its frame  $D$ . It can at once be taken out of 115 this frame and be put into the casting box. Another flong in another frame  $D$  or in the same frame can then be introduced into the apparatus for taking a matrix from another form or from the same form if required. The 120 tables  $r$  and  $L$  are preferably made removable on dovetail guides or in any other convenient way in order to allow other parts of the apparatus to be more readily got at for adjustment, examination or repair. 125

What I claim, and desire to secure by Letters Patent, is—

1. In the production of matrices or molds for stereotyping the process which consists in, first suspending a moist flong above the type 130 form, then while so suspended partially drying the moist flong by means of heat until the superfluous moisture is driven out and the adhesive and other substances of which the